

Pengaruh reduksi roasting pada bijih nikel saprolit dan perbedaan konsentrasi pada pelindian atmosferik asam sulfat = The effect reduction roasting of nickel using saprolite ore and various concentration of atmospheric sulphuric acid leaching

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Abstrak

Sources nickel laterite deposit of the world are mostly found in the tropic such as Indonesia. The initial composition of nickel saprolite ore is characterized by XRF. Saprolite ore was reduced use coal 15% wt at 1000°C for 60 minutes. The result of reduction is characterized by XRD. Effect of roasting reduction to recovery nickel also affect the result leaching use solvent sulphuric acid (H₂SO₄) for 240 minutes at 100°C with varying concentrations of 0.5 M, 1 M, and 2 M. The content of nickel dissolved in pregnant leach solution calculated using Atomic Absorbance Spectroscopy (AAS).

Result of XRD characterization shows phase transformation into Fe₃O₄, NiO, and FeNi after reduction roasting. Sulphuric Acid at concentration 1 Molar has the highest nickel recovery with 52.75% in reduced saprolite ore.